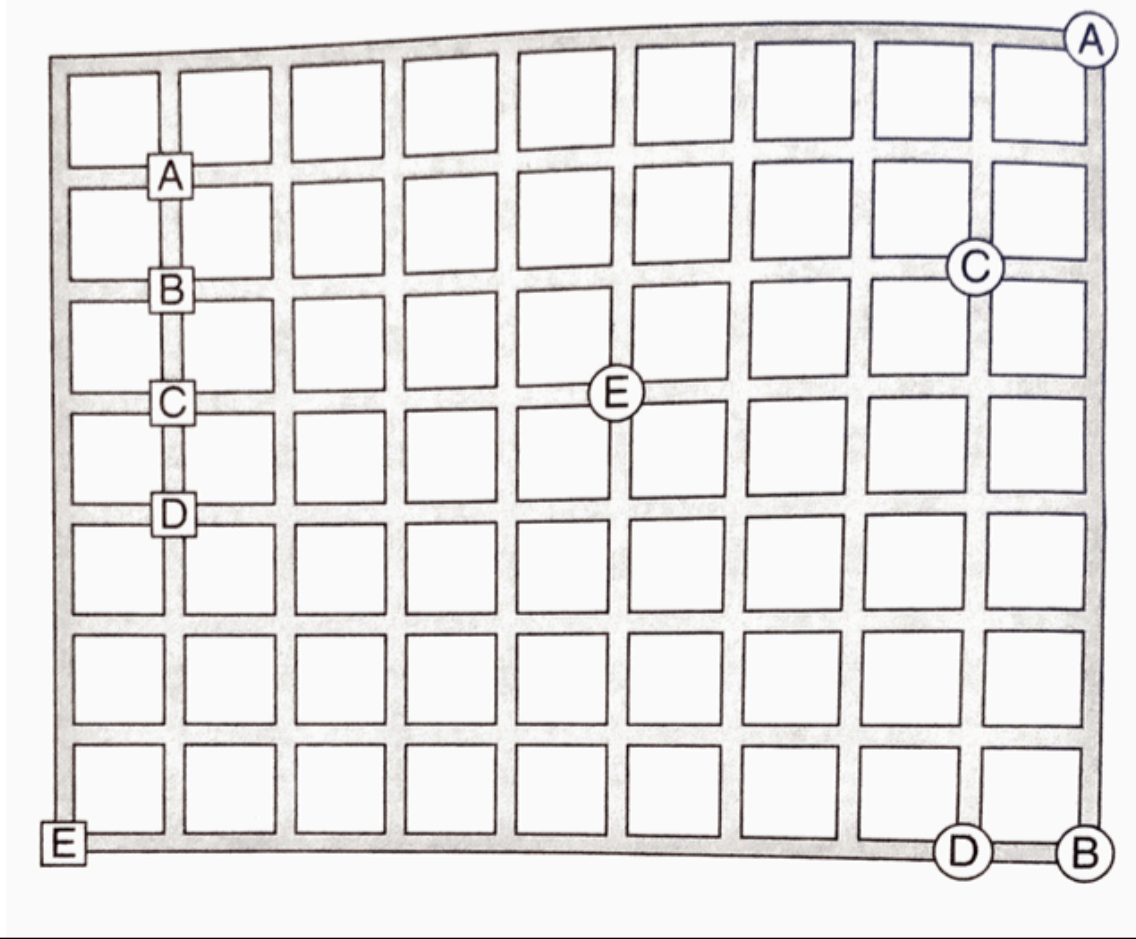
Warmup

Created by Jalen Henderson

9/(#of letters in "Spongebob") · 3

Fun Friday

What you see is a street plan of a little town. The squares marked A, B, C, D, and E indicate the homes of fives students who not get along particularly well with one another. The circles marked with the same letters show where their respective girlfriends are. What routes should the five students take to visit their girlfriends so that their paths never cross?



Collect Warmups

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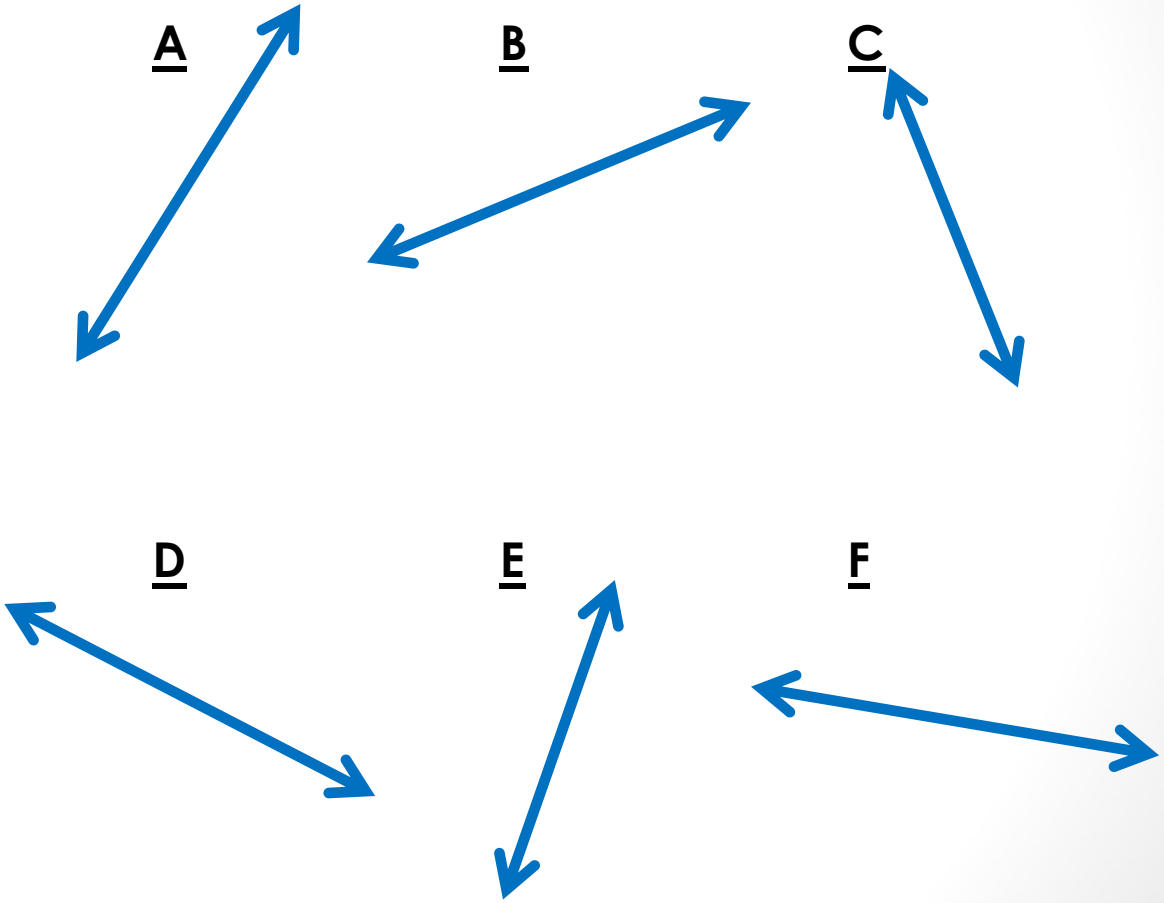
Slope **p. 11**

Match:

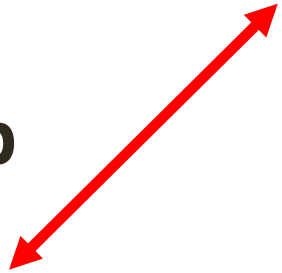
1) Slope = ½
2) Slope = 2
3) Slope = 3
4) Slope = -½
5) Slope = -¼
6) Slope = -3



On a **NORMAL** graph: (scaled by 1's)

- **Slope = 1: "Halfway" steep**

(rise and run are the same)

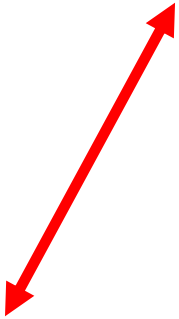


- **Slope < 1: Not that steep**

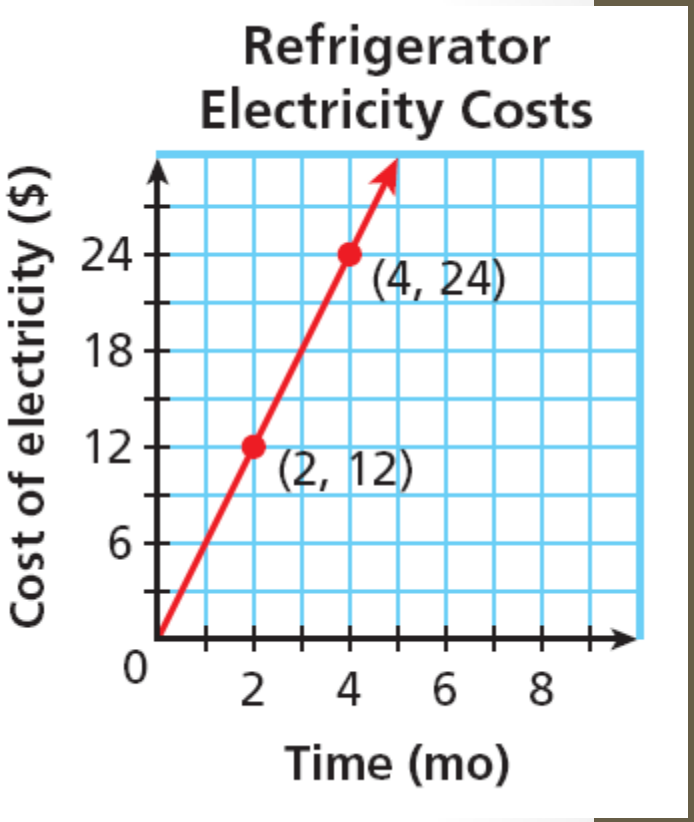
(rise is less than the run)

- **Slope >1: Pretty steep**

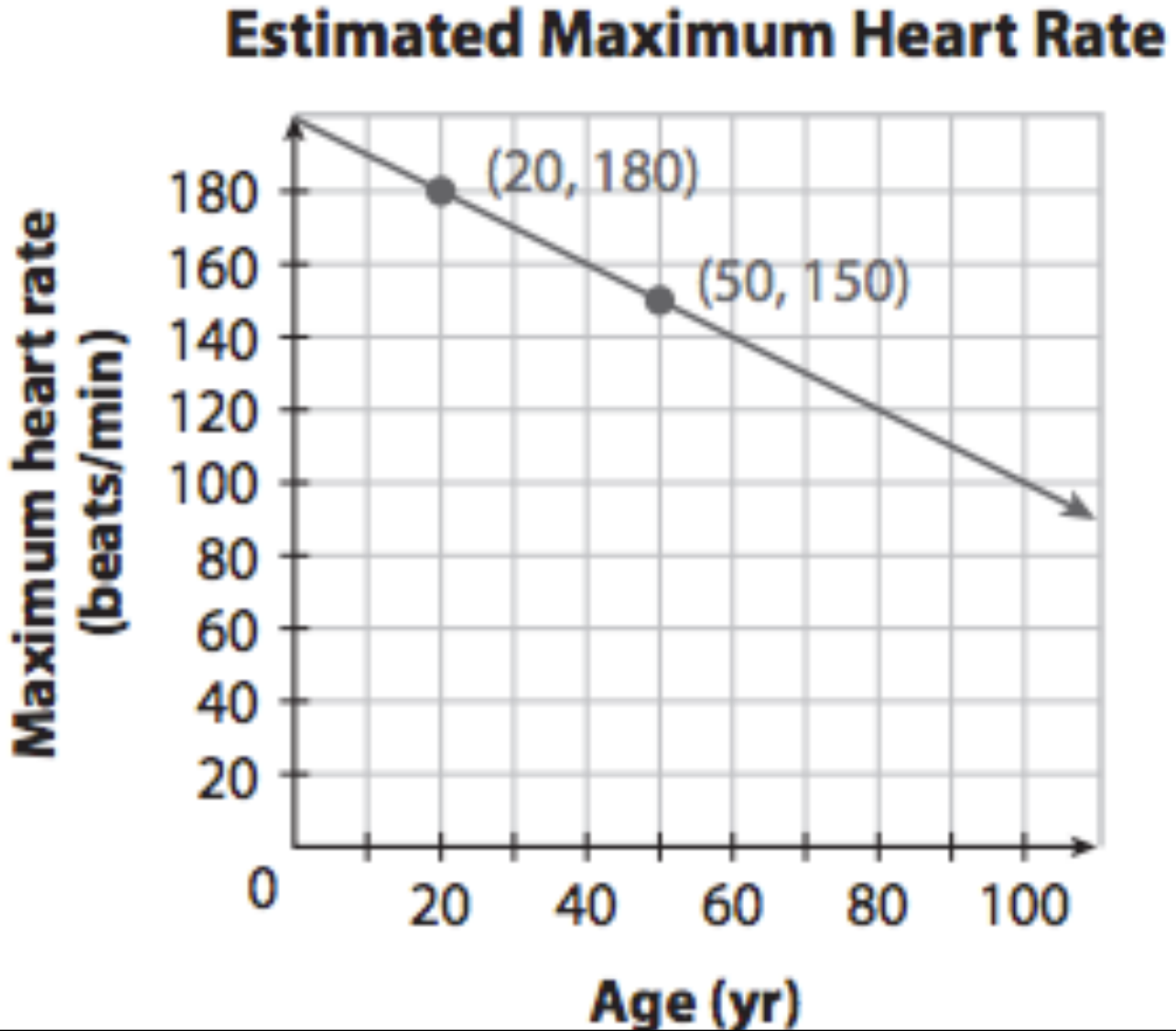
(rise is more than the run)



The graph shows the average electricity costs (in dollars) for operating a refrigerator for several months. Find the slope of the line. Then tell what the slope represents.



Find and interpret the slope.



Check HW

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Slope WITHOUT a graph

Objectives:

-Be able to measure how steep a line is WITHOUT USING A GRAPH!

How many words per minute?

Min	Words
0	48
4	60
8	72
12	84
16	98

Rate of Change $= \frac{12}{4} = 3$

12 words every 4 minutes

3 words per minute

Slope?

$$m = \frac{2}{1} = 2$$

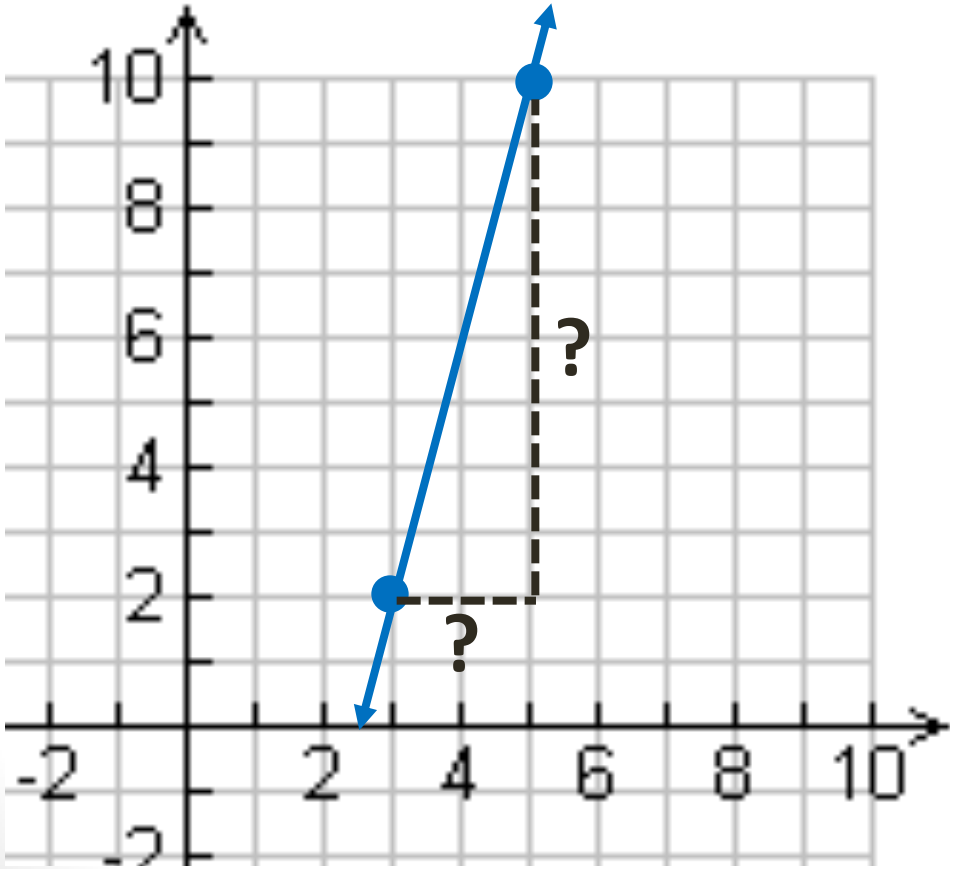
x	0	1	2	3	4
y	-6	-4	-2	0	2

x	0	3	6	9	12
y	27	21	15	9	3

$$m = \frac{-6}{3} = -2$$

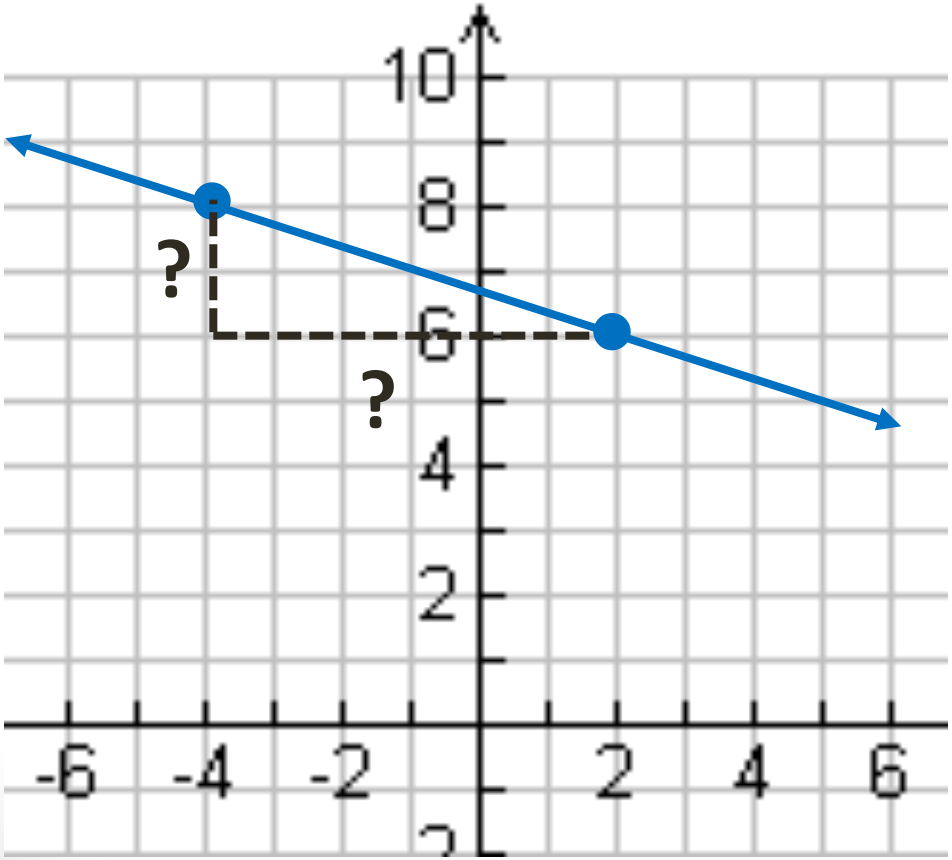
How do I get the slope?

- Between points (3, 2) and (5, 10)



How do I get the slope?

- Between points (-4, 8) and (2, 6)



Formula for slope WITHOUT a graph:

- **You can get the change in y by subtracting the y-coordinates.**
- **You can get the change in x by subtracting the x-coordinates.**
- **The slope between (x_1, y_1) and (x_2, y_2) is:**

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

The 2's and 1's are not exponents. They are just LABELS.

$y_2 - y_1$ just means "the 2nd y minus the 1st y"

Common Error Alert!!!

DO NOT PUT THE X'S ON TOP.

Find the slope:

1. **Between (1, 4) and (3, 9)**

Formula Strategy

$$m = \frac{9-4}{3-1} = \boxed{\frac{5}{2}}$$

"Table" Strategy

$$(1,4) \xrightarrow{+2} (3,9) \xrightarrow{+5} \boxed{\frac{5}{2}}$$

2. **Between (-3, -4) and (7, 1)**

Formula Strategy

$$m = \frac{1-(-4)}{7-(-3)} = \frac{5}{10} = \boxed{\frac{1}{2}}$$

$$(-3,-4) \xrightarrow{+10} (7,1) \xrightarrow{+5} \boxed{\frac{5}{10} = \frac{1}{2}}$$

3. **Between (-6, 2) and (-4, -10)**

Formula Strategy

$$m = \frac{-10-2}{-4-(-6)} = \frac{-12}{2} = \boxed{-6}$$

$$(-6,2) \xrightarrow{+2} (-4,-10) \xrightarrow{-12} \boxed{\frac{-12}{2} = -6}$$

Homework

p. 185 (1 – 8, 11, 12)